

## CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

MDOT PROJECT MANAGER			JOB NUMBER (JN)	CONTROL SECTION (CS)
DESCRIPTION				
<b>MDOT PROJECT MANAGER:</b> Check all items to be included in RFP  WHITE = REQUIRED GRAY SHADING = OPTIONAL			<b>CONSULTANT:</b> Provide only checked items below in proposal	
Check the appropriate Tier in the box below				
<b>TIER I (\$25,000-\$99,999)</b>	<b>TIER II (\$100,000-\$250,000)</b>	<b>TIER III (&gt;\$250,000)</b>		
			Understanding of Service	
			<i>Innovations</i>	
			<i>Safety Program</i>	
N/A			Organizational Chart	
			Qualifications of Team	
			Past Performance	
Not required As part of Official RFP	Not required As part of Official RFP		Quality Assurance/Quality Control	
			<b>Location:</b> The percentage of work performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.	
N/A	N/A		Presentation	
N/A	N/A		Technical Proposal (if Presentation is required)	
3 pages (MDOT Forms not counted) <b>(No Resumes)</b>	7 pages (MDOT Forms not counted)	19 pages (MDOT Forms not counted)	<b>Total maximum pages for RFP not including key personnel resumes</b>	

# REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest "Consultant/Vendor Selection Guidelines for Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Vendor/Consultant Services > Vendor/Consultant Selections.**

## RFP SPECIFIC INFORMATION

BUREAU OF HIGHWAYS

BUREAU OF TRANSPORTATION PLANNING \*\*

OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

NO

YES

DATED

THROUGH

**Prequalified Services** – See page \_\_\_\_ of the attached Scope of Services for required Prequalification Classifications.

**Non-Prequalified Services** - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed. **(Form 5100J Required with Proposal)**

**Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

**For all Qualifications Based Selections**, the section team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

**\*\*For RFP's that originate in Bureau of Transportation Planning only**, a priced proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning (see address list, page 2). The priced proposal must be submitted in a sealed envelope, clearly marked "**PRICE PROPOSAL.**" The vendor's name and return address **MUST** be on the front of the envelope. The priced proposal will only be opened for the highest scoring proposal. Unopened priced proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your priced proposal being opened erroneously by the mail room.

**For a cost plus fixed fee contract**, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

**Qualifications Review / Low Bid** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

**Best Value** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

**Low Bid** (no qualifications review required - no proposal required.) See Bid Sheet Instructions below for additional instructions.

## BID SHEET INSTRUCTIONS

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet(s) is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked "**SEALED BID.**" The vendor's name and return address **MUST** be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room and the bid being rejected from consideration.

**PROPOSAL SUBMITTAL INFORMATION**

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER	PROPOSAL/BID DUE DATE	TIME DUE
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**PROPOSAL AND BID SHEET MAILING ADDRESSES**

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

MDOT Project Manager

MDOT Other

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

<b>Lansing Regular Mail</b>	<b>OR</b>	<b>Lansing Overnight Mail</b>
Secretary, Contract Services Div - B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Secretary, Contract Services Div - B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933
Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933

**GENERAL INFORMATION**

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least four (4) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal

The following two American Recovery and Reinvestment Act of 2009 (ARRA) notifications, **ARRA MONTHLY EMPLOYMENT REPORTS** and **REQUIRED CONTRACT PROVISIONS TO IMPLEMENT AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) SECTIONS 902 AND 1515**, are attached to this Request For Proposal for your understanding. These two notifications are only applicable for those projects/contracts funded with ARRA funds and will be included in contract Exhibits.

**MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION**

**5100D** – Request for Proposal Cover Sheet

**5100G** – Certification of Availability of Key Personnel

**5100I** – Conflict of Interest Statement

**5100J** - Consultant Data and Signature Sheet (Required only for Non-Prequalified Work)

**(These forms are not included in the proposal maximum page count.)**

**Michigan Department of Transportation**

**SCOPE OF SERVICE  
FOR  
TRAFFIC & SAFETY SERVICES**  
Traffic Signal Optimization  
**Revised Due Date 5/23/2011**

**CONTROL SECTION(S):** Multiple

**JOB NUMBER(S):** 111365C

**PROJECT LOCATION:**

**Up to two consultants will be selected as part of this project**

83 Signalized Intersections in Ionia, Kent, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, and Ottawa Counties, Grand Region:

#	CS	SN	INTERSECTION	CITY/TWP
1	34011	004	M91 @ M-44	OTISCO TWP
2	34032	002	M66 (DEXTER) @ MAIN ST	IONIA
3	34032	006	M66 (DEXTER) @ STEELE ST	IONIA
4	34032	007	M66 (DEXTER) @ WASHINGTON ST	IONIA
5	34032	010	M66 (STATE) @ TUTTLE RD	BERLIN TWP
6	34032	013	M66 (DEXTER) @ SPRAGUE RD.	BERLIN TWP
7	34033	001	M66 (STATE) @ M21,M66 (LINCOLN) (W JCT)	IONIA
8	34062	001	M21 (LINCOLN) @ M66 (DEXTER)	IONIA
9	34081	001	M44 (STATE) @ BRIDGE ST	BELDING
10	41026	003	I96 WB OFF RAMP @ WALKER AVE	WALKER
11	41027	006	I196 EB OFF RAMP @ COLLEGE AVE	GRAND RAPIDS
12	41027	007	I196 WB OFF RAMPS @ FULLER AVE	GRAND RAPIDS
13	41027	106	I196 WB OFF RAMP @ COLLEGE AVE	GRAND RAPIDS
14	41027	107	I196 EB OFF RAMPS @ FULLER AVE	GRAND RAPIDS
15	41029	012	I196 WB OFF-RAMP @ 44TH ST	GRANDVILLE
16	41029	112	I196 EB OFF RAMP @ 44TH ST	GRANDVILLE
17	41033	020	M37 (ALPINE) @ 13 MILE RD	SPARTA TWP
18	41042	020	I196BS (FRANKLIN) @ SHERIDAN	GRAND RAPIDS
19	41043	001	M21 (FULTON) @ SPAULDING	FOREST HILLS
20	41043	002	M21 (MAIN) @ HUDSON ST	LOWELL
21	41043	006	M21 @ PETTIS AVE CONNECTOR	ADA TWP
22	41043	007	M21 (FULTON) @ ADA DR	FOREST HILLS
23	41043	009	M21 @ ALDEN NASH,BOWES RD	LOWELL TWP
24	41043	017	M21 (FULTON) @ BRONSON ST	ADA TWP
25	41043	018	M21 (FULTON) @ FOREST HILL AVE,CRAHEN	GRAND RAPIDS TWP
26	41043	020	M21 (W MAIN) @ VALLEY VISTA DR	LOWELL
27	41043	106	M21 @ XOVER E. OF PETTIS	ADA TWP
28	41081	001	M45 (FULTON) @ STRAIGHT	GRAND RAPIDS

29	41081	007	M45 (FULTON) @ VALLEY AVE	GRAND RAPIDS
30	41081	009	M45 (FULTON) @ LEXINGTON	GRAND RAPIDS
31	41081	010	M45 (FULTON) @ MT VERNON	GRAND RAPIDS
32	41081	019	M45 (FULTON) @ LANE AVE	GRAND RAPIDS
33	41081	024	M45 (FULTON) @ WINTER	GRAND RAPIDS
34	41101	003	M44 (BELDING) @ MEYERS LAKE AVE	CANNON TWP
35	41101	006	M44 (BELDING) @ BLAKELY DR	CANNON TWP
36	41122	001	M57 (14 MILE) @ LINCOLN LAKE RD	OAKFIELD TWP
37	41131	005	US131 NB OFF-RAMP @ CHERRY ST	GRAND RAPIDS
38	41131	015	US131 NB RAMPS @ HALL	GRAND RAPIDS
39	41131	016	US131 NB OFF RAMP @ I196BS (FRANKLIN)	GRAND RAPIDS
40	41131	026	US131 NB OFF RAMP @ PEARL,SCRIBNER	GRAND RAPIDS
41	41131	035	US131 NB RAMPS @ ANN ST	GRAND RAPIDS
42	41131	037	US131 SB OFF RAMPS @ TURNER AVE (ANN ST EXIT)	WALKER
43	41131	038	US131 OFF RAMPS @ 44TH ST (SPUI)	WYOMING
44	41132	003	US131 NB OFF RAMP @ POST DR	PLAINFIELD TWP
45	41132	004	US131 NB OFF RAMP @ 10 MILE RD	ALGOMA TWP
46	41133	102	US131 NB OFF RAMP @ M46 (17 MILE)	SOLON TWP
47	54011	008	OLD US131 @ SOUTH ST	BIG RAPIDS
48	54012	001	US131BR,M20 (STATE) @ M20 (MAPLE) N JCT	BIG RAPIDS
49	54012	002	OLD US131 (STATE) @ FERRIS DR	BIG RAPIDS
50	54012	008	US131BR,M20 (STATE) @ WOODWARD & LOCUST	BIG RAPIDS
51	54012	009	US131BR,M20 (STATE) @ US131BR,M20 (PERRY)	BIG RAPIDS
52	54012	016	US131BR (STATE) @ BALDWIN,PERE MARQUETTE	BIG RAPIDS
53	54021	003	M20 (PERRY) @ OLD M20,205TH AVE & DR	BIG RAPIDS
54	54021	004	M20 (PERRY) @ KMART,HOLIDAY INN DR	BIG RAPIDS
55	54021	006	M20 (PERRY) @ 215TH AVE	BIG RAPIDS TWP
56	54022	001	M20 (MAPLE) @ MICHIGAN AVE	BIG RAPIDS
57	54022	002	M20 (MAPLE) @ M20 (THIRD)	BIG RAPIDS
58	54032	003	M66 @ M20	WHEATLAND TWP
59	59021	004	M57 (WASHINGTON) @ HILLCREST	GREENVILLE
60	59021	006	M57 (WASHINGTON) @ GREENVILLE WEST DR	GREENVILLE
61	59021	008	M57 @ SATTERLEE RD.	EUREKA TWP
62	59032	001	M91 (LAFAYETTE) @ M57 (WASHINGTON)	GREENVILLE
63	59032	002	M91 (LAFAYETTE) @ CASS ST	GREENVILLE
64	59032	003	M91 (LAFAYETTE) @ GROVE	GREENVILLE
65	59032	005	M91 (LAFAYETTE) @ CHARLES ST	GREENVILLE
66	59032	008	M91 (LAFAYETTE) @ VAN DEINSE ST	GREENVILLE
67	59032	012	M91 (GREENVILLE) @ SIDNEY RD	MONTCALM TWP
68	59042	001	M46 @ FEDERAL HWY (OLD US131)	REYNOLDS TWP
69	59043	001	M46 @ M91	CATO TWP
70	59051	001	M66 (SHERIDAN) @ M57 (CARSON CITY RD)	FAIRPLAIN TWP
71	59051	002	M66 (E MAIN) @ M66 (STATE) (E JCT)	STANTON
72	59052	001	M46 @ M66 (SIX LAKES) (W JCT)	BELVIDERE TWP
73	61151	025	US31BR (SHORELINE) @ WESTERN AVE	MUSKEGON
74	61151	026	US31BR (SHORELINE) @ SEVENTH ST	MUSKEGON
75	61153	009	US31BR (SHORELINE) @ TERRACE ST	MUSKEGON
76	61153	028	US31BR (SHORELINE) @ FOURTH ST	MUSKEGON

77	61153	029	US31BR (SHORELINE) @ THIRD ST	MUSKEGON
78	70024	003	I196 EB OFF RAMP @ 32ND AVE	HUDSONVILLE
79	70024	103	I196 WB OFF RAMP @ 32ND AVE	HUDSONVILLE
80	70025	001	M6 WB @ 8TH	JAMESTOWN TWP
81	70063	009	I96 WB OFF RAMP @ 68TH ST	COOPERSVILLE
82	70823	003	M121 (CHICAGO) @ 32ND AVE	HUDSONVILLE
83	70823	022	M121 (CHICAGO) @ 36TH ST	HUDSONVILLE

### **PROJECT DESCRIPTION:**

Traffic Signal Optimization on various corridors in the Grand Region. This project will provide MDOT with updated corridor signal progression plans with optimized traffic signal operations along each corridor. The consultant team will provide this information on MDOT timing permits forms. New timings will be implemented by MDOT. Follow-up analysis of the network and recommendation of adjustments to the system after implementation is required, as is a before and after study of the effectiveness. All work will follow the Michigan Signal Optimization Guidelines, the Michigan Timing Plan Preparation Guidelines, and other documents provided by MDOT.

MDOT is requesting qualifications and a proposal for providing engineering services for signal optimization on various state trunk lines in the Grand Region.

**ANTICIPATED SERVICE START DATE:**      October 7, 2011

**ANTICIPATED SERVICE COMPLETION DATE:**      April 6, 2013

### **PRIMARY PREQUALIFICATION CLASSIFICATION(S):**

Complex Traffic Signal Operations

### **SECONDARY PREQUALIFICATION CLASSIFICATION(S):**

None

**DBE REQUIREMENT:**      N/A

### **MDOT PROJECT ENGINEER MANAGER:**

Thomas Fisher  
Michigan Department of Transportation  
Division of Operations – Traffic Signals Section  
425 West Ottawa Street  
Lansing, MI 48913  
Email: [fisherth@michigan.gov](mailto:fisherth@michigan.gov)  
Tel: (517) 335-1207  
Fax: (517) 241-2567

## **CONSULTANT RESPONSIBILITIES:**

Schedule a pre-project initiation meeting to discuss the overall project schedule including data collection and to coordinate project activities and to determine signal timing objectives and issues.

Conduct two status meetings at MDOT facilities. Provide written monthly project status reports to MDOT detailing progress towards completion of the project's goals and objectives. Also provide the meeting minutes.

Obtain and review the current signal timing plans. It may be necessary for the consultant to obtain and review the signal timing plans of the existing signals immediately upstream/adjacent to the project signals to evaluate continued progression along a given corridor.

All intersections will require development of timings plans for the A.M. peak, P.M. peak, noon-peak and nighttime periods.

In addition to the normal timing, a [special event, emergency, holiday weekend, summer, etc...] timing plan may also be necessary depending on the specific corridor.

Field collection of lane geometry, posted speed limits, intersection widths, travel distance between signalized locations, grades, lane widths, no turn on red signs, pedestrian facilities (heads and pushbuttons) will be required. A review of the ambient light at each location shall also be noted.

Take a digital photograph of each intersection approach.

Optimize traffic signal operations to improve traffic flow and reduce delay at each intersection using *Synchro (Version 7)* software.

Simulate the results using *SimTraffic (Version 7)* software.

Calculate vehicle and pedestrian clearance intervals at each location based on traffic signal timing standards provided by MDOT's Change Interval Guidelines.

Compile a summary of system Measures of Effectiveness and a cost/benefit analysis for the project area.

Identify any potential improvements in the existing signal equipment, lane assignment or roadway geometry that will provide better operational and safety characteristics, if corrected.

Perform a Warrant Analysis on all signals. All applicable warrants shall be reviewed. Graphs shall be created and supplied to MDOT for locations that do not meet warrants.

Obtain most recent 3-year traffic crash summaries from MDOT for a 250 ft radius around each signalized location. Evaluate the crash data to determine if there are any crash patterns. Report on crash patterns to the MDOT project manager for future analysis by MDOT. Operational improvements deemed necessary by the crash analysis shall be incorporated into the timing plans developed by the consultant. Crash diagram should be created for the top 10% high crash locations.

Conduct review of nearby signals on cross streets that are within 500 feet of the corridor being retimed and provide suggested timing plans. These signals should also be included in the Synchro models.

Provide the applicable local agency the MDOT timing permits for the corridor being retimed so they can utilize them to adjust their own timing permits for those effected signals. The local agency should be given enough time to allow for the installation to be implemented at the same time as MDOT.

Develop and submit for review computer simulations and “red-lined” signal-timing plans for each location in accordance with MDOT’s and each road agency’s format. Revise these timing plans in accordance with MDOT, the road agency’s and local communities’ comments.

Conduct a follow-up field critique of the new timing plans and recommend adjustments as required. Where required, submit revised signal timing plans.

Perform before and after analysis using actual travel time runs and prepare a brief summary outlining the benefits derived from the project. The following bullets will give an overview of the details that will be involved:

#### *Data Collection:*

The consultant will be required to collect and evaluate detailed point-to-point travel time data using PC Travel or similar approved data collection and processing software. Collection of travel time data using PC Travel requires use of a laptop computer, with data collected from one of the following two sources:

- Using a GPS receiver coupled with the GPS Travel Time software package, or;
- Using a vehicle-mounted transmission sensor coupled with a TDC-8 traffic count board.
- For locations where there are 3 or fewer signals along a corridor utilize the equivalent output from SimTraffic to generate existing and optimized measures of effectiveness.

Utilize the Michigan Signal Optimization Guidelines and the Michigan Timing Plan Preparation Guidelines throughout the contract. Any unusual locations shall be discussed with the Project Manager for direction on how to proceed.

Utilize the MDOT supplied spreadsheet model for conducting benefit/cost evaluations on signal optimization projects; this is in electronic format.

### **PROJECT DELIVERABLES:**



Provide MDOT electronic copies of the *Synchro* 7 existing and optimized simulation files so that they can be updated and used for future analysis.

Provide MDOT an electronic copy of all project documentation.

Provide a written final report (3 paper copies of the report, 5 electronic copies including the report and appendices) that includes all identified roadway geometry, lane assignments, speed limits, equipment/roadway deficiencies and recommended improvements, turning movement count data, 24-hour approach counts, flash schedule analysis, clearance interval analysis, collision diagrams, crash analysis & recommendations, summary of measures of effectiveness, benefit-cost analysis and summary of each local meeting.

### **MDOT RESPONSIBILITIES:**

Host a project initiation meeting to discuss the overall project schedule including data collection and to coordinate project activities and to determine signal timing objectives and issues.

Furnish to the Consultant the following:

All traffic counts, including 2-hour AM peak period, 4-hour PM peak period, and 2-hour mid-day off-peak turning movement volumes, peak period pedestrian counts, and 24-hour machine counts.

The most recent 3-year traffic crash summaries from MDOT in a 250 ft radius around each signalized location.

Existing timing plans and signal drawings of each intersection.

Conduct final reviews and provide comments on proposed timing permits, computer models and reports.

### **PAYMENT SCHEDULE:**

Compensation for this Scope of Services shall be on an actual cost plus fixed fee basis.

### **CONSULTANT PAYMENT:**

Compensation for this project shall be on an actual cost plus fixed fee basis. This basis of payment typically includes an estimate of labor hours by classification or employee, hourly labor rates, applied overhead, other direct costs, subconsultant costs, and applied fixed fee.

All billings for services must be directed to the Department and follow the “then current” guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's website. This document contains instructions and forms that must be followed and used for billing. Payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for services rendered shall not exceed the maximum amount unless an increase is approved in accordance with the contract with the Consultant. Typically, billings must be submitted within 60 days after the completion of services for the current billing. The final billing must be received within 60 days of the completion of services. Refer to your contract for your specific contract terms.

Direct expenses, if applicable, will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted with the billing for all eligible expenses on the project in accordance with the Reimbursement Guidelines. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this project.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager. Reimbursement for overtime hours that are allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included in the priced proposal submitted by the Consultant and must have prior written approval by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager.

The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.